

OPINIONS AND DECLARATIONS RENDERED BY THE INTER- NATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE

Edited by

FRANCIS HEMMING, C.M.G., C.B.E.
Secretary to the Commission

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OPINION 292

Validation, under the Plenary Powers, of the generic
name *Cardinia* (Class Lamellibranchiata) as from Agassiz
(J.L.R.), [1841], for use in its accustomed sense



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INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE

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VALIDATION, UNDER THE PLENARY POWERS, OF THE
GENERIC NAME "CARDINIA" (CLASS LAMELLI-
BRANCHIATA) AS FROM AGASSIZ (J.L.R.), [1841],
FOR USE IN ITS ACCUSTOMED SENSE

RULING : Under the Plenary Powers, the action specified below is hereby taken :—(a) The under-mentioned generic names are hereby suppressed for the purposes both of the Law of Priority and of the Law of Homonymy :—(i) *Cardinia* Roemer, 1839 ; (ii) *Cardinia* Agassiz (J.L.R.), [1840] ; (b) The under-mentioned generic names are hereby suppressed for the purposes of the Law of Priority but not for those of the Law of Homonymy :—(i) *Thalassides* Berger, 1833 ; (ii) *Sinemuria* de Christol, 1841 ; (c) The generic name *Cardinia* Agassiz (J.L.R.), [1841], as published on page 207 of the German Edition of Sowerby's *Mineral Conchology*, is hereby validated with *Unio listeri* Sowerby (J.), 1817, as type species ; (d) The specific name *coburgensis* Berger, 1833, as published in the combination *Thalassides coburgensis*, is hereby suppressed for the purposes of the Law of Priority but not for those of the Law of Homonymy.

(2) The under-mentioned generic name is hereby placed on the *Official List of Generic Names in Zoology* as Name No. 728 :—*Cardinia* Agassiz (J.L.R.), [1841], as validated under (1) (c) above (gender : feminine) (type species, by designation, under the Plenary Powers, under (1) (c) above : *Unio listeri* Sowerby (J.), 1817).

(3) The under-mentioned generic names are hereby placed on the *Official Index of Rejected and Invalid Generic Names in Zoology* with the Name Nos. severally specified below :—(a) the following generic names suppressed, under the Plenary Powers, under (1) (a) above for the purposes both of the Law of Priority and of the Law of Homonymy ; (i) *Cardinia* Roemer, 1839 (Name No. 108) ; (ii) *Cardinia* Agassiz (J.L.R.), [1840] (Name

No. 109) ; (b) the following generic names suppressed, under the Plenary Powers, under (1) (b) above for the purposes of the Law of Priority but not those of the Law of Homonymy :—(i) *Thalassides* Berger, 1833 (Name No. 110) ; (ii) *Sinemuria* de Christol, 1841 (Name No. 111) ; (c) the name *Cardinia* Agassiz (J.L.R.), 1838 (an invalid name because not published with an indication) (Name No. 112) ; (d) the name *Ginorga* Gray, 1840 (a *nomen nudum*) (Name No. 113) ; (e) the under-mentioned names which are invalid by reason of being junior objective synonyms of the name *Cardinia* Agassiz (J.L.R.), [1841], as validated, under the Plenary Powers, under (1) (c) above :—(i) *Ginorga* Strickland, 1842 (Name No. 114) ; (ii) *Dihora* [Anon.], 1842 (Name No. 115) ; (iii) *Storhodon* Zittel, 1881 (Name No. 116) ; (f) the under-mentioned names which are invalid by reason of being junior homonyms :—(i) *Pachyodon* Stutchbury, 1842 (a junior homonym of *Pachyodon* Meyer, 1838) (Name No. 117) ; (ii) *Thalassites* Quenstedt, 1843 (an emendation of *Thalassides* Berger, 1833, and a junior homonym of *Thalassites* Swainson, 1837) (Name No. 118).

(4) The specific name *listeri* Sowerby (J.), 1817, as published in the combination *Unio listeri* (specific name of the type species of *Cardinia* Agassiz (J.L.R.), [1841]) is hereby placed on the *Official List of Specific Names in Zoology* as Name No. 136.

(5) The specific name *coburgensis* Berger, 1833, as published in the combination *Thalassides coburgensis* and as suppressed, under the Plenary Powers, under (1) (d) above, is hereby placed on the *Official Index of Rejected and Invalid Specific Names in Zoology* as Name No. 73.

I.—THE STATEMENT OF THE CASE.

On 15th January 1946 Dr. L. R. Cox (*British Museum (Natural History), London*) submitted an application for the use by the

Commission of its Plenary Powers for the purpose of preserving the well-known Lamellibranch generic name *Cardinia* for use in its accustomed sense with *Unio listeri* Sowerby (J.), 1817, as type species. For the reasons explained in paragraph 3 below, it was necessary at a later stage to expand this application in certain respects. The definitive application, so revised, which was received from Dr. Cox on 22nd December 1950, was as follows :—

Proposed use of the Plenary Powers to validate the generic name “*Cardinia*” (Class Lamellibranchiata) as from Agassiz (J.L.R.), [1841], for use in its accustomed sense

By L. R. COX, Sc.D., F.R.S.

(*Department of Geology, British Museum (Natural History), London*)

The purpose of the present application is to ask the International Commission on Zoological Nomenclature to use its Plenary Powers to validate, as from Agassiz (J.L.R.), [1841], the well-known generic name *Cardinia* in its accustomed sense, *i.e.*, with *Unio listeri* Sowerby (J.), 1817 (*Min. Conch.* 2 : 123) as type species.

The earliest described representatives of this genus were mainly referred by J. Sowerby and other authors to the genus *Unio* Retzius, 1788 (*Diss. nova Test. Gen.* : 16). In 1833 a shell from the Lower Lias of the neighbourhood of Coburg was described by a Dr. Berger (*Neues Jahrb. Min.* 1833 : 69) under the name *Thalassides coburgensis* (gen. et sp. nov.). The description reads as follows : “ Sie gehören zu den Dimyarien, und haben eine der Länge nach eiförmige Gestalt. Die äussere Fläche scheint glatt, nur etwa mit Zuwachs-Streifen versehen? An einem Exemplar fand ich an der Stelle des Schlosses ein seichtes Grübchen, während die andern weder Grübchen noch Zahn besitzen. Beiderseits des Schlosses ist ein Seitenzahn. Das randliche Band liegt in einer Vertiefung des Schlossrandes. Die zusammenliegenden Klappen sind nicht klaffend”. No figure was given by Berger.

Subsequent authors have recognized that the fossil so named and described was some representative of the genus now known as *Cardinia*, but its specific identity is doubtful and the trivial name *coburgensis* has nowhere been adopted.

The generic name *Cardinia*, now universally employed for the genus typified by *Unio listeri* Sowerby, was first published by Agassiz (J.L.R.) in 1838 (*Verh. schweiz. naturf. Ges.* 23 : 104). No species was cited and the genus was merely defined as including “ci-devant *Unio* des terrains secondaires”. This cannot be regarded as sufficient to constitute an “indication” for the purposes of Article 25 of the

Règles. Accordingly the name *Cardinia* has no status in zoological, nomenclature as from Agassiz (J.L.R.), 1838.

The name *Cardinia* was next published by F. A. Roemer in 1839 (*Verstein. norddeutsch. Oolithengebirges*, Nachtr. : 38), where the following passage appears immediately after the description of an unfigured species to which was applied the name *Cardita oblecta*, attributed to Goldfuss : "Agassiz bildet aus dieser Art seine Gattung *Cardinia*, und nennt jene *Cardinia sulcata* ; wir haben indessen keine Kennzeichen zu finden vermocht, welche die Trennung der Gattung verlangten". Goldfuss never described a species under the name *Cardita oblecta*, and this name should therefore be attributed to Roemer. Brauns considered that the species to which Roemer applied this name was identical with *Unio listeri* Sowerby ; he was, however, notoriously sweeping in his synonymies and his judgment in this matter cannot be accepted in the absence of supporting evidence from other sources. The name *Cardinia sulcata* referred to by Roemer as having been given by Agassiz (J.L.R.) was not published by that author until 1843 (*Études crit. Moll. foss.* (3) : 227). The species so named by Agassiz (J.L.R.) was (like *Cardita oblecta*) regarded by Brauns as identical with *Unio listeri* Sowerby ; Brauns accordingly treated the trivial name *sulcata* Agassiz (J.L.R.) as a junior synonym of *listeri* Sowerby. Although Roemer did not accept the genus *Cardinia* (erected, as he believed, by Agassiz (J.L.R.)), it could be argued that his use of the name *Cardinia* constituted the establishment of a nominal genus *Cardinia* Roemer with *Cardita oblecta* Roemer as type species, by monotypy. The genus *Cardinia*, so established, would be indeterminate, it being impossible definitely to establish the identity of its type species. The status of the nominal genus *Cardinia* (Agassiz MS.) of Roemer, 1839, is therefore just as unsatisfactory as that of *Thalassides* Berger.

The next occasion on which the name *Cardinia* appeared in print was in the German edition by Agassiz (J.L.R.) of Sowerby's *Mineral Conchology* (: 58). The exact dates on which the various parts of the German edition were published are not known, but the portion containing page 58 was considered by Sherborn (*Index Anim. Pars secunda* : cxviii) as having been published in 1840. That date is accepted here, though it is possible that the portion in question was not published until 1841. In this work it was suggested that the two Carboniferous species *Unio subconstrictus* Sowerby, 1813, and *Unio acutus* Sowerby, 1813, and the Cornbrash species *Unio uniformis* Sowerby, 1813, should be referred to this genus, "welche ich nach einer iasischen [? liasischen] Species desselben Typus aufgestellt habe". The distinctive characters of the hinge were described. The work referred to in the above passage (the *Études crit. Moll. foss.* (3)) in which the genus was founded on Liassic species was at that time still in manuscript. Of the three species cited under the name *Cardinia* in the passage referred to above, the first and second are now referred to

the genus *Carbonicola* McCoy, 1855 (in Sedgwick & McCoy, *Synop. Class. brit. palaeozoic Rocks* 2 : 514), and the third to the genus *Pleuromya* Agassiz (J.L.R.), [1842—1844] (German ed. of Sowerby's *Min. Conch.* : 439). In consequence, the selection of any of these species as the type species of *Cardinia* Agassiz (J.L.R.), [1840], would be most undesirable and would certainly lead to confusion.

The name *Cardinia* was next published in 1841, again by Agassiz (J.L.R.), on page 207 of the same translation of the *Mineral Conchology*. No descriptive remarks were given for the genus, but three species were cited, as being referable to it, namely *Unio crassissima* Sowerby, 1817, *Unio listeri* Sowerby, 1817, and *Unio hybrida* Sowerby, 1817. Up to July, 1948, the name *Cardinia* as published by Agassiz (J.L.R.) in the foregoing manner would, apart from any other consideration, have been invalid, for, being published without a generic diagnosis and without either a designated or indicated type species, it would have been a name published without an "indication" within the meaning of that expression as used in Proviso (a) to Article 25 of the *Règles*. Under a decision taken by the Thirteenth International Congress of Zoology at its Paris meeting in July, 1948, the definition of the expression "indication" as applied to generic names published prior to 1st January, 1931, has been liberalised (see 1950, *Bull. zool. Nomencl.* 4 : 78—80) and in consequence a name such as *Cardinia* Agassiz, [1841], now ranks as a name published with an "indication", and, if not invalidated in some other way, such a name is now an available name. Unfortunately, however, as we have seen, the name *Cardinia* Agassiz (J.L.R.), [1841], is invalid by reason of being a junior homonym of *Cardinia* Roemer, 1839. We may note, however, that if this difficulty were to be overcome by the suppression by the Commission of the name *Cardinia* Roemer, 1839, under its Plenary Powers, *Cardinia* Agassiz (J.L.R.), [1841], would become the oldest available generic name objectively available for the genus now universally known as *Cardinia*, provided that *Unio listeri* Sowerby (the second of the species cited by Agassiz (J.L.R.)) was the type species of this genus ; it would still be necessary, however, for the Commission to suppress under its Plenary Powers all generic names of earlier date that are subjectively identical with *Cardinia* Agassiz (J.L.R.), [1841], as defined above, before the name *Cardinia* Agassiz could validly be applied to this genus.

As regards the type species of the genus *Cardinia*, it may be noted that in the year following the second publication of this name by Agassiz (J.L.R.) in the German edition of the *Mineral Conchology*, an anonymous reviewer, discussing the genus *Cardinia* wrote (1842, *Neues Jahrb. f. Min.* 1842 : 497) "*Unio listeri* Dow. dient am besten als Typus". This observation was made, however, with reference not to Agassiz's use of the name *Cardinia* in the *Mineral Conchology*, but to the use of this name by Strickland (H.E.), when discussing Agassiz's then unpublished *Etudes critiques*, in the Report of the British Association for the year 1842. Under a ruling given by

the Thirteenth International Congress of Zoology, Paris, 1948 (see 1950, *Bull. zool. Nomencl.* 4 : 348), such action does not constitute the selection of a type species for the nominal genus *Cardinia* Agassiz (J.L.R.), that genus not having been under consideration at the time when the anonymous reviewer of Strickland's paper made the foregoing selection (even if the passage quoted above could be regarded as a selection under Rule (g), if "rigidly construed", as required by the *Règles*). Quite apart from the foregoing special considerations relating to the action of the anonymous reviewer of 1842, it cannot be supposed that Agassiz's use of the generic name *Cardinia* on page 207 of the German edition of the *Mineral Conchology* (in a sense not, in his eyes, materially different from the manner in which he had used this name on page 58 of the same work) constitutes the establishment of a new generic name ranking from the later of the two pages cited above. In order to secure such a status for *Cardinia*, as so used, it would be necessary for the Commission to use its Plenary Powers ; similarly, those Powers would be needed to provide a type species for this genus.

From the particulars given above, it will be seen that the difficulties in the present case could be overcome, (1) if the generic names *Cardinia* Roemer, 1839, and *Cardinia* Agassiz (J.L.R.), [1840], were to be suppressed by the Commission under its Plenary Powers (thereby making the name *Cardinia* Agassiz (J.L.R.), [1841], objectively available), (2) if all generic names of older date that have as their type species species which are today subjectively regarded as being referable to the genus *Cardinia* (as universally understood) were to be suppressed under the same powers, and (3) if *Unio listeri* Sowerby were to be designated as the type species of *Cardinia* Agassiz (J.L.R.), [1841].

In addition to the generic name *Thalassides* Berger, 1833 (to which reference has already been made), there is another generic name which is subjectively identical with, *Cardinia* Agassiz (J.L.R.), [1841], and may have priority over that name. This is the name *Sinemuria* de Christol, 1841 (*Bull. Soc. géol. France* (1) 12 : 92), which was applied by its original author to a species which is now considered to belong to the genus *Cardinia*. The difficulty which arises in this case is that, whereas it is known that the name *Sinemuria* de Christol was published in 1841 just before 26th May (the date of the recorded receipt by the Geological Society of London of the part of the *Bull. Soc. géol. France* in which this name appeared), no evidence has yet been found as to the exact date of publication of page 207 of Agassiz's German edition of the *Mineral Conchology*, although it is believed to have been in the same year. Thus, *Sinemuria* may have been published before the foregoing publication of the name *Cardinia*. In any case, the latter can at present rank for priority only as from 31st December, 1841 (see 1950, *Bull. zool. Nomencl.* 4 : 223—225). Accordingly, as matters now stand, the name *Sinemuria* de Christol, May, 1841, has priority over *Cardinia* Agassiz (J.L.R.), [1841] (ranking as from 31st December

of that year). It is essential therefore that, as part of the general settlement of the problem raised by the name *Cardinia*, the name *Sinemuria* de Christol should be suppressed, since otherwise it would take precedence over the name *Cardinia*.

In addition, there are several names which, on the validation of the name *Cardinia* Agassiz (J.L.R.), [1841], it would be desirable should finally be disposed of, by being placed on the *Official Index of Rejected and Invalid Generic Names in Zoology*. Three of these names are objective synonyms of *Cardinia* Agassiz (J.L.R.), [1841]; one is a *nomen nudum*; two are invalid junior homonyms of older names. The six names in question are: (1) *Ginorga* Gray, 1840 (*Syn. Contents Brit. Mus.* (ed. 42) : 150) (a *nomen nudum*); (2) *Ginorga* Gray, (*nom. nud.*) Strickland, 1842 (*Rep. Brit. Ass. (Plymouth, 1841) Trans. Sect.* : 65) (cited as a synonym of *Cardinia*); (3) *Dihora* ("Gray") [Anon.], 1842 (*Neues Jahrb. Min.* 1842 : 496) (cited as a synonym of *Cardinia*); (4) *Pachyodon* Stutchbury, 1842 (*Ann. Mag. nat. Hist.* 8 : 481) (a homonym of *Pachyodon* Meyer, 1838, *Jahrb. f. Min.* 1838 : 414); (5) *Thalassites* Quenstedt, 1843 (*Floezgeb. Wuertemb.* 1843 : 143) (an emendation of *Thalassides* Berger, 1833) (a homonym of *Thalassites* Swainson, 1837, *Nat. Hist. Classif. Birds* 2 : 372); (6) *Storhodon* ("Brown") Zittel, 1881 (*Palaeozool.* 2 : 62) (name attributed to Brown without a bibliographical reference and cited as a synonym of *Cardinia*).

After careful consideration, I have come to the conclusion that, in order to prevent the most serious confusion, accompanied by a far-reaching disturbance in the nomenclature of this group, it is essential that the International Commission on Zoological Nomenclature should use its Plenary Powers to such extent as is necessary to validate the generic name *Cardinia* Agassiz (J.L.R.), [1841] (as published on page 207 of the German edition of Sowerby's *Mineral Conchology*) with *Unio listeri* Sowerby, 1817, as type species. The proposal which I accordingly submit is that the International Commission should:—

(1) use its Plenary Powers:—

(a) to suppress the under-mentioned names for the purposes both of the Law of Priority and of the Law of Homonymy:—

(i) *Cardinia* Roemer, 1839;

(ii) *Cardinia* Agassiz (J.L.R.), [1840];

(b) to suppress the under-mentioned generic names for the purposes of the Law of Priority, but not for those of the Law of Homonymy:—

(i) *Thalassides* Berger, 1833;

(ii) *Sinemuria* de Christol, 1841;

- (c) to validate the generic name *Cardinia* Agassiz (J.L.R.), [1841] (as published on page 207 of the German edition of Sowerby's *Mineral Conchology*), with *Unio listeri* Sowerby, 1817, as type species ;
 - (d) to suppress for the purposes of the Law of Priority, but not for those of the Law of Homonymy the trivial name *coburgensis* Berger, 1833, as published in the binominal combination *Thalassides coburgensis* ;
- (2) place the generic name *Cardinia* Agassiz (J.L.R.), [1841], as proposed under (1) (c) above to be validated under the Plenary Powers (type species, by designation under the Plenary Powers under (1) (c) above : *Unio listeri* Sowerby, 1817) on the *Official List of Generic Names in Zoology* ;
- (3) place on the *Official Index of Rejected and Invalid Generic Names in Zoology* the under-mentioned rejected or invalid names :—
- (a) the two names specified in (1) (a) above, proposed to be suppressed for all purposes under the Plenary Powers ;
 - (b) the two names specified in (1) (b) proposed to be suppressed for the purposes of the Law of Priority, but not for those of the Law of Homonymy, under the Plenary Powers ;
 - (c) the name *Cardinia* Agassiz (J.L.R.), 1838 (an invalid name, because not published with an indication) ;
 - (d) the name *Ginorga* Gray, 1840 (a *nomen nudum*) ;
 - (e) the under-mentioned objective synonyms of *Cardinia* Agassiz (J.L.R.), 1841 (as proposed under (1) (c) to be validated under the Plenary Powers) :—
 - (i) *Ginorga* Strickland, 1842 ;
 - (ii) *Dihora* [Anon.], 1842 ;
 - (iii) *Storhodon* Zittel, 1881 ;
 - (f) the under-mentioned invalid homonyms :—
 - (i) *Pachyodon* Stutchbury, 1842 ;
 - (ii) *Thalassites* Quenstedt, 1843 ;
- (4) place the specific trivial name *listeri* Sowerby, 1817, as published in the binominal combination *Unio listeri*, on the *Official List of Specific Trivial Names in Zoology* ;
- (5) place the specific trivial name *coburgensis* Berger, 1833, as published in the binominal combination *Thalassides coburgensis* (as proposed under (1) (d) above to be suppressed under the

Plenary Powers for the purposes both of the Law of Priority and of the Law of Homonymy) on the *Official Index of Rejected and Invalid Specific Trivial Names in Zoology*.

II.—THE SUBSEQUENT HISTORY OF THE CASE

2. *Registration of the present application* : On receipt of Dr. Cox's preliminary application in January 1946, the problem represented by the name *Cardinia* was given the Registered Number Z.N.(S.) 208.

3. *Postponement of the present application at Paris in 1948*: Owing to the limited amount of time available, it was not possible for the International Commission at its Session held in Paris in 1948 to consider all the cases then awaiting attention, and partly for this reason and partly because of the complicated nature of the issues involved, the present was one of the cases which it was decided not to place before the Commission at that Session. In the period immediately following, it was necessary to devote the entire resources of the Commission to the preparation and publication of the Official Records of the Paris Session, and it was not until the autumn of 1950 that it was possible to resume preparations for the publication in the *Bulletin of Zoological Nomenclature* of applications on individual nomenclatorial cases submitted to the Commission for decision. It was necessary at that stage to ask Dr. Cox to revise his application in the present case, in order to take account of the decisions taken by the Paris Congress to establish an *Official List of Specific Names in Zoology* (then styled the *Official List of Specific Trivial Names in Zoology*) and *Official Indexes of Rejected and Invalid Names* (both generic and specific). Correspondence on this subject ensued between the Secretary and Dr. Cox in the period September-December 1950, and (as already explained), Dr. Cox submitted his revised application in this case on 22nd December of that year.

4. *Publication of the present application* : The present application was sent to the printer immediately upon the receipt of the

revised text (paragraph 3 above) and was published on 20th April 1951 in Part 2 of volume 2 of the *Bulletin of Zoological Nomenclature* (Cox, 1951, *Bull. zool. Nomencl.* 2 : 59—64).

5. *Issue of Public Notices* : Under the revised arrangements approved by the Thirteenth International Congress of Zoology, Paris, 1948 (1950, *Bull. zool. Nomencl.* 4 : 51—56), Public Notice of the possible use by the International Commission on Zoological Nomenclature of its Plenary Powers in the present case was given on 20th April 1951, both in Part 2 of volume 2 of the *Bulletin of Zoological Nomenclature* (the Part in which Dr. Cox's application was published) and to the other prescribed serial publications. The publication of these Notices elicited no objection to the action proposed.

6. *Support received for Dr. Cox's application* : Letters of support for Dr. Cox's application were received from the following specialists :—(a) Dr. W. J. Arkell (*Sedgwick Museum, Cambridge University, Cambridge*) ; (b) Professor Dr. C. R. Boettger (*Natur-Museum u. Forschungs-Institut Senckenberg, Senckenberg-Anlage, Frankfurt a. M., Germany*) ; (c) the Joint Committee on Zoological Nomenclature for Paleontology in America. The communications so received are given in the immediately following paragraphs.

7. *Support received from Dr. W. J. Arkell (Sedgwick Museum, Cambridge University, Cambridge)* : On 3rd June 1951, Dr. W. J. Arkell (*Sedgwick Museum, Cambridge University, Cambridge*) wrote a letter to the Commission on a number of cases, including the present application, as regards which he said :—“ Z.N.(S.) 208. I agree with this application and wish to support it ” (Arkell, 1951, *Bull. zool. Nomencl.* 2 : 334).

8. *Support received from Professor Dr. C. R. Boettger (Natur-Museum u. Forschungs-Institut Senckenberg, Senckenberg-Anlage, Frankfurt a. M., Germany)* : On 27th August 1951, Dr. Robert Mertens transmitted to the Commission a communication from Professor Dr. C. R. Boettger (*Natur-Museum u. Forschungs-Institut Senckenberg, Senckenberg-Anlage, Frankfurt a. M.*), commenting upon a number of recently published cases. Dr. Boettger's comment on Dr. Cox's application was as follows :—“ Ich schliesse mich den Ausführungen von Dr. L. R. Cox an ”.

9. *Support received from the Joint Committee on Zoological Nomenclature for Paleontology in America* : On 9th April 1952 there was received in the Office of the Commission a large number of letters from Professor G. Winston Sinclair (then of *University of Michigan, Ann Arbor, Michigan, U.S.A.*), Chairman of the Joint Committee on Zoological Nomenclature for Paleontology in America, submitting statements of the views of members of the Committee on applications published in the *Bulletin of Zoological Nomenclature*. It appeared that the despatch of these letters had been held back by Professor Sinclair until he was in a position to send the entire set to the Commission, and it was presumably on this account that the letter relating to the present case, though dated 6th February 1952, was not received until 9th April. By that time the prescribed period of notice had expired and the Voting Paper (V.P.(52)9) relating to the present case had just been issued to the Members of the Commission (see paragraph 10 below), and it was too late to include in it particulars of the views of the Joint Committee. A note giving the information contained in Professor Sinclair's letter was, however, issued on 12th April 1952 to the Members of the Commission who were thus placed in possession of the views of the Joint Committee. The following is the text of Professor Sinclair's letter :—

The Joint Committee on Zoological Nomenclature for Paleontology in America has considered this subject, and I wish to inform you that, being polled, they voted :

To support the petition (8) :

A. Myra Keen
Siemon W. Muller
Katherine V. W. Palmer
John B. Reeside, Jr.
J. Marvin Weller
Bobb Schaeffer
Bryan Patterson
R. C. Moore

To oppose the petition (3) :

Don L. Frizzell
G. Winston Sinclair
J. W. Wells

In registering their support, Miss Keen and Dr. Muller comment that they do so although the case seems to them to be weak. My own opposition is due to the absence of any proof that confusion is threatened.

III.—THE DECISION OF THE INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE

10. Issue of Voting Paper V.P.(52)9 : On 7th April 1952 a Voting Paper (V.P.(52)9) was issued in which the Members of the Commission were invited to vote either for, or against, the "proposal relating to the generic name *Cardinia* (Class Lamelli-branchiata) as specified in Points (1) to (5) on pages 63 and 64 of volume 2 of the *Bulletin of Zoological Nomenclature*" [i.e., the points set out in the concluding paragraph of the application reproduced in the first paragraph of the present *Opinion*].

11. The prescribed Voting Period : As the foregoing Voting Paper was issued under the Three-Month Rule, the prescribed Voting Period closed on 7th July 1952.

12. Particulars of the Voting on Voting Paper V.P.(52)9 : The state of the voting on Voting Paper V.P.(52)9 at the close of the prescribed Voting Period was as follows :—

(a) *Affirmative Votes had been given by the following seventeen (17) Commissioners (arranged in the order in which Votes were received) :*

Calman ; Hering ; do Amaral ; Dymond ; Riley ;
Cabrera ; Stoll ; Esaki ; Hankó ; Bonnet ; Mertens ;
Lemche ; Vokes ; Bradley ; Boschma ; Pearson¹ ;
Hemming ;

(b) *Negative Votes :*

None ;

¹ Commissioner Pearson exercised in this case the right conferred by the Thirteenth International Congress of Zoology, Paris, 1948, under which a Commissioner may, if he so desires, signify his willingness to support the view, or the majority view, of other members of the Commission (1950, *Bull. zool. Nomencl.* 4 : 50—51).

(c) *Voting Paper V.P.(52)9* was not returned by one (1) Commissioner :

Jaczewski.

13. Declaration of Result of Vote : On 8th July 1952, Mr. Hemming, Secretary to the International Commission, acting as Returning Officer for the Vote taken on Voting Paper V.P.(52)9, signed a Certificate that the Votes cast were as set out in paragraph 12 above and declaring that the proposal submitted in the foregoing Voting Paper had been duly adopted and that the decision so taken was the decision of the International Commission in the matter aforesaid.

14. On 4th March 1954, Mr. Hemming prepared the Ruling given in the present *Opinion* and at the same time signed a Certificate that the terms of that Ruling were in complete accord with those of the proposal approved by the International Commission in its Vote on Voting Paper V.P.(52)9.

15. The following are the original references for the names which appear in the Ruling given in the present *Opinion* :—

Cardinia Agassiz (J.L.R.), 1838, *Verh. schweiz. naturf. Ges.* **23** : 104

Cardinia Roemer, 1839, *Verstein. norddeutsch. Oolithengebirges*, Nachtr. : 38

Cardinia Agassiz (J.L.R.), [1840], Sowerby's *Min. Conch.* (German ed.) : 58

Cardinia Agassiz (J.L.R.), [1841], Sowerby's *Min. Conch.* (German ed.) : 207

coburgensis, *Thalassides*, Berger, 1833, *Neues Jahrb. Min.* **1833** : 69

Dihora [anon.], 1842, *Neues Jahrb. Min.* **1842** : 496

Ginorga Gray, 1840, *Syn. Contents Brit. Mus.* (ed. 42) : 150

Ginorga Strickland, 1842, *Rep. Brit. Ass. (Plymouth, 1841)* *Trans. Sect.* : 65

listeri, *Unio*, Sowerby (J.), 1817, *Min. Conch.* **2** : 123

Pachyodon Stutchbury, 1842, *Ann. Mag. nat. Hist.* **8** : 481

Sinemuria de Christol, 1841, *Bull. Soc. géol. France* (1) **12** : 92

Storhodon Zittel, 1881, *Palaeozool.* **2** : 62

Thalassides Berger, 1833, *Neues Jahrb. Min.* **1833** : 69

Thalassites Quenstedt, 1843, *Floezgeb. Wuertemb.* **1843** : 143

16. The gender of the generic name *Cardinia* Agassiz (J.L.R.), [1841], is feminine.

17. At the time of the adoption of the Ruling given in the present *Opinion*, the expression prescribed for the second portion of the binomen which constitutes the scientific name of a species was the expression "trivial name" and the *Official List* reserved for recording such names was styled the *Official List of Specific Trivial Names in Zoology*, the word "trivial" appearing also in the title of the *Official Index* reserved for recording rejected and invalid names of this category. Under a decision taken by the Fourteenth International Congress of Zoology, Copenhagen, 1953, the expression "specific name" was substituted for the expression "trivial name" and corresponding changes were made in the titles of the *Official List* and *Official Index* of such names (1953, *Copenhagen Decisions zool. Nomencl.* : 21). The changes in terminology so adopted have been incorporated in the Ruling given in the present *Opinion*.

18. The prescribed procedures were duly complied with by the International Commission on Zoological Nomenclature in dealing with the present case, and the present *Opinion* is accordingly hereby rendered in the name of the said International Commission by the under-signed Francis Hemming, Secretary to the International Commission on Zoological Nomenclature, in virtue of all and every the powers conferred upon him in that behalf.

19. The present *Opinion* shall be known as *Opinion Two Hundred and Ninety-Two* (292) of the International Commission on Zoological Nomenclature.

DONE in London, this Fourth day of March, Nineteen Hundred and Fifty-Four.

*Secretary to the International Commission
on Zoological Nomenclature*

FRANCIS HEMMING